

Scientific Method

Identifying the Controls and Variables in an Experiment

DIRECTIONS: Go to the website listed below and read each section about the Simpson characters and the different tests they are trying to run. Answer the questions about different tests they would like to run that deal with controls and variables within a test.

Control group: In an experiment, a group that serves as a standard of comparison with another group. This group is identical except for one factor. (see page 15 of your text book)

Independent variable: In an experiment, the factor that is deliberately manipulated, also called the manipulated variable. (see page 15 of your text book)

Dependent variable: In an experiment, the factor that changes as a result of manipulation of one or more other factors; also called a responding variable.

Website: <http://www.biologycorner.com/worksheets/controls.html>

- **Identify the following in Smither's experiment/test:**

1. Control Group:
2. Independent Variable:
3. Dependent variable:
4. What should Smithers' conclusion be?
5. How could this experiment be:

- **Homer's experiment/test:**

6. What was the initial observation?
7. Identify the control group:
8. Identify the independent variable:
9. Identify the dependent variable:
10. What should Homer's conclusion be?

NAME: _____ DATE: _____ PERIOD #: _____

- ***Bart's experiment/test; identify the following:***

11. Control group:

12. Independent variable:

13. Dependent variable:

14. What should Bart's conclusion be?

15. How could Bart's experiment be improved?

- Krusty's experiment/test; identify the following:

16. Control group:

17. Independent variable:

18. Dependent variable:

19. Explain whether the data supports the advertisements claims about its product.

- ***Lisa's experiment/test;***

20. Describe how Lisa would perform this experiment.

a. Identify the control group:

b. Identify the independent variable:

c. Identify the dependent variable: